

ABSTRACT OF THE DISCLOSURE

A method for storing hydrogen which combines the advantages of at least two known methods for storing hydrogen, selected amongst the methods for storing hydrogen in a gaseous form, in a liquid form and in a solid form. More specifically, the above method consists in coupling and using in a single tank at least two of the methods for storing hydrogen mentioned hereinabove, namely:

- A) the method for storing hydrogen in a gaseous form;
- B) the method for storing hydrogen in a liquid form; and
- C) the method for storing hydrogen in a solid form, in volume or surface, preferably by means of a suitable hydride.

The only condition is that each of the above methods be used for storing at least 5% by weight of the total amount of hydrogen to be stored within a tank. Such a method permits to obtain fast release of hydrogen whenever required while ensuring high storage capacities. It also permits to satisfy transitory periods especially during the accelerations of a hydrogen-powered automotive vehicle.